

# Project Status

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01 Sep 2016

# Stuff bought before end of fiscal year

- Bias supply (M. Kufer)
  - Bought \$9000 300V, 48A bulk supply
  - Can use parts from HINS vector modulator PS. Should be able to save money.
- Windows are bought (D. Sun, K. Duel)
  - 2 flat and 2 conical windows from Coorstek and 2 flat windows from Morgan. Cost including copper parts and brazing \$47k.
- Y567 (J. Reid)
  - \$22k

# Stuff coming soon ...

- Tomco Solid State driver
  - Problem with combiner unit
    - 02 Sep delivery of combiner to Tomco from Werlatone
    - 09 Sep return of non-conforming combiner to Tomco
    - Hopefully get new combiner unit back to FNAL by end of Sep.
- Garnet rings and test pieces
  - Garnet blocks done.
    - Glue sent to National this week (29 Aug)
- Garnet pieces for test stand
  - Garnet blocks are done
  - Machining. End of Sept delivery?

# Tests

- 76 MHz test for Y567 (Note previous test at 71.7 MHz)
  - Finally got jumper (25 Aug) for the test cavity.
- 106 MHz cavity
  - Center and outer conductor on hand (25 Aug)
  - Other pieces still being manufactured ~July.
  - Assembly, welding etc. probably will not happen until after shutdown (Oct)
- Cathode resonator test
  - 30 MHz bandwidth required is causing ~50% reflected power at 76 and 106 MHz
  - However, may still be ok for now if we move resonance towards 76 MHz and bunch rotation only requires ~50 kV, i.e. 1/2 the voltage and thus 1/4 the power.
    - Transition will need to have 2 cavities anyway.
    - Long term solution might be to use circulator
      - Vendor may have an off the shelf circulator that meets our specs. (Ferrite Quasar – Russian company)
    - Joe is also looking at cheaper solution with a stub antenna match.

# Tests (cont'd)

- Garnet pieces tests
  - Mechanics for doing the tests are essentially complete (J. Kuharik)
    - Waiting for the garnet test pieces and the fixture.

# Design

- Garnet ring test design
  - A. Makarov and I. Terekhine in process of finalizing design.
- Solenoid bias design
  - A. Makarov and I. Terekhine in process of finalizing design.
  - TD is aware that an order for a solenoid is coming. (G. Veleev as of 19 Aug)
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# Things are progressing

- Things are moving although at a slow pace.
- Mechanical design is getting more mature.
- Parts have been ordered and are coming.
- Hopefully, we will have something resembling a cavity in 2017.